INDEX TO Vol. II (A).

AUTHORS' INDEX.

Acharya, B. G., and Wheeler, T. S.	Detergency of soap solutions, 637.
Ahmed, Zafaruddin ..	*See* Siddiqui and Ahmed.
Ananthakrishnan, R. ..	On the convergence error in depolarisation measurements, 133. Redetermination of the depolarisation of light scattering in gases and vapours, 153. The Raman Spectrum of heavy water, 291. Some new features in the Raman Spectra of carbon and silicon Tetrachlorides, 452.
Asundi, R. K., and Samuel, R.	The near ultra-violet absorption bands of SO_2, 30.
Banerjee, S.	*See* Krishnan and Banerjee.
Bhagavantam, S. ..	Hindered rotation and oscillation of molecules in liquids and in crystals, 63. The carbon isotope in Raman Scattering, Part I, 86. A suggested new interpretation of the structure of band-spectra, 92. Raman Spectrum of deuterium, I, 303. Raman Spectrum of hydrogen deuteride, 310. Rotational Raman Scattering in benzene, 342. Raman Spectrum of deuterium—II. Intensity and polarisation characters, 477.
Born, Max	The mysterious number 137, 533.
Chinchalkar, S. W. ..	Magnetic birefringence in solutions of organic substances, Part I, 525.
Chowla, I.	Some problems of Waring's type (III), 10. On sums of powers, 180. A theorem on the addition of residue classes: Application to the number $\Gamma(k)$ in Waring's problem, 242. Vinogradow's solution of Waring's problem: Hypothesis K of Hardy and Littlewood, 562.
Chowla, S.	Irrational indefinite quadratic forms, 176. A remarkable property of the "Singular Series" in Waring's problem and its relation to hypothesis K of Hardy and Littlewood, 397.
Datar, A. S.	*See* Meldrum and Datar.
Diwan, G. S., and Narlikar, V. V.	A practical financial transaction, 182.
Dodwadmath, R. P., and Wheeler, T. S.	Studies in the chemistry of chalcones and chalcone-oxides—I. Phenyl-(3.4-mythelene-dioxy-styryl)-ketone, 438.

Ferreira, B. F., and Wheeler, T. S. — A study of the benzoin reaction—V. The effect of inhibitors on the benzoin reaction, 605.

Gogte, G. R. .. .. — Chemistry of β-aryl glutaconic acids—Part II. Condensations with phenolic ethers, 185.

Gupta, Hansraj .. — On the p-potency of G (p^{w}—1, r), 199.

Kappanna, A. N. .. — Kinetics of the reaction between α-Brom-propionate and silver ions. A heterogeneous reaction taking place on the surface of silver bromide, 512.

Kosambi, D. D. .. .. — An affine calculus of variations, 333.

Krishnan, K. S., and Banerjee, S. — The entropy of manganous ammonium sulphate at temperatures close to absolute zero, in relation to the magnetic anisotropy of the salt at room temperatures, 82.

Krishnan, R. S. .. .. — Molecular clustering in binary liquid mixtures (variation with composition and temperature), 221.

Mahanti, Indramani .. — *See* Singh and Mahanti.

Meldrum, A. N., and Datar, A. S. .. — Reduction of the $CHOH.CCl_3$ group, 580.

Nabar, M. V., and Wheeler, T. S. — The kinetics of heterogeneous organic reactions: The reaction between benzyl chloride and solid silver nitrate, 265.

Narlikar, V. V. .. .. — *See* Diwan and Narlikar.

Nath, N. S. Nagendra .. — The dynamical theory of the diamond lattice—Part III. The diamond-graphite transformation, 143. *See* Raman and Nath.

Neelakantam, K., Seshadri, T. R., and Rao, R. H. Ramachandra — Pigments of cotton flowers—Part II. Uppam (*Gossypium herbaceum*), 490.

Nilakantan, P. .. .. — Magnetic anisotropy of naturally occurring substances —I. Mother of pearl, 621.

Padmanabhan, R. .. — Fluorescence in cyclohexane, 209.

Pandya, K. C. .. .. — *See* Vahidy and Pandya.

Parthasarathy, S. .. — Determination of ultrasonic velocity in 52 organic liquids, 497.

Pisharoty, P. Rama .. — Laminar diffraction and the Becke phenomenon, 14.

Raman, C. V., and Nath, N. S. Nagendra — The diffraction of light by high frequency sound waves, I, II, 406, 413.

Ramaswamy, K. L. .. — Dielectric coefficients of volatile compounds of fluorine and boron.—Carbon tetrafluoride, nitrogen trifluoride, fluoroform, carbon-nitrogen compound of fluorine $(CF_3N)_2$, boron hexahydride, and nitrogenous boron hydride $B_3N_3H_6$, 364.

Refractive indices and dispersions of volatile compounds of fluorine and boron.—Carbon tetrafluoride, nitrogen trifluoride, fluoroform, carbon-nitrogen compound of fluorine $(CF_3N)_2$, boron hexahydride, and nitrogenous boron hydride $B_3N_3H_6$, 630.

Ramaswamy, K. L., and Rao, G. Gundu	The density and compressibility of silicane and silicoethane, 213.
Ram, Gurdas	*See* Vaidhianathan and others.
Ram, Gurdas, Vaidhianathan, V. I., and Taylor, E. McKenzie	Potential distribution in infinite conductors and uplift pressure on dams, 22.
Rao, A. Veerabhadra ..	Raman Spectrum of carbon disulphide, 46.
Rao, B. Sanjiva and Subramaniam, K. S.	The occurrence of Furan derivatives in volatile oils—II. α-clausenan and di-α-clausenan, 574.
Rao, B. V. Raghavendra ..	Doppler effect in light scattering in liquids—Part II. Polarisation of the transversely scattered radiations, 236.
Rao, G. Gundu	*See* Ramaswamy and Rao.
Rao, R. H. Ramachandra .	*See* Neelakantam and others.
Rao, S. Ramachandra ..	Diamagnetism of copper, 249.
Rao, S. Satyanarayana ..	*See* Rau and Rao.
Rau, M. A. Govinda, and Rao, S. Satyanarayana	On the dipole moment of tetralin, 232.
Rege, P. S., and Wheeler, T. S.	A study of the benzoin reaction—IV. The kinetics of the benzoin reaction in the presence of organic solvents, 483.
Samuel, R.	*See* Asundi and Samuel.
Savur, S. R.	A simple test of value of a particular period in forecasting, 336.
Seshadri, T. R.	*See* Neelakantam and others.
Shah, S. M.	On inequalities satisfied by certain arithmetical functions (II), 321.
Sibaiya, L.	*See* Venkatesachar and Sibaiya.
	Hyperfine structure in selenium, palladium and gold, 313.
Siddiqui, Salimuzzaman ..	Studies in the conessine series—Part I. Isomerisation of conessine and its nor-bases, 426.
Siddiqui, Salimuzzaman, and Ahmed, Zafaruddin	Alkaloids from the seeds of *Cassia absus*, Linn., 421.
Singh, Bawa Kartar, and Mahanti, Indramani	The physical identity of enantiomers—Part I. Rotatory dispersion of laevo-borneol, enantiomeric camphors, camphoric acids, sodium camphorates, camphoric anhydrides and camphorimides, 378.
Srinivasan, P. S.	Raman Spectra of isoprene, dipentene and ocimene, 105.
Subbaramaiya, D. S. ..	Light scattering in gold sols in relation to particle size and shape, 358.
Subbaraya, T. S.	Analysis of the spectrum of trebly ionised zinc: Zn IV, 113.
Subramaniam, K. S. ..	*See* Rao and Subramaniam.
Sukhatme, P. V.	A contribution to the problem of two samples, 584.

Suryanarayana, M. .. Positive determinants of binary quadratic forms whose class-number is 2, 178.

Swamy, S. Rama .. X-ray analysis of the structure of iridescent shells—Part II. The haliotidæ, 345.

Tawde, N. R. .. Some aspects of gross intensities in electronic bands with special reference to C_2 (Swan) and N_2 (Second Positive) systems, 67.

Taylor, E. McKenzie .. *See* Ram and others.
See Vaidhianathan and others.

Thatte, V. N. .. .. Magnetic double refraction and light scattering in fused nitrates, 244.

Vahidy, Toquir Ahmad, and Pandya, K. C. The condensation of aldehydes with malonic acid in the presence of organic bases—Part IV. The condensation of piperonal, 402.

Vaidhianathan, V. I. .. *See* Ram and others.

Vaidhianathan, V. I., Ram, Gurdas, and Taylor, E. McKenzie Uplift pressure on weirs. A floor with a line of sheet piles, 646.

Vaidyanathaswamy, R. .. On the arithmetico-logical symmetric functions of n attributes, 54.

Vaidya, W. M. .. .. The flame spectra of some aromatic compounds, 352.

Varadachari, P. S. .. Influence of the formation of hydrates on the diamagnetism of chemical compounds, 161.

Venkatesachar, B., and Sibaiya, L. Isotope abundance in platinum, 101.

Iridium isotopes and their nuclear spins, 203.

Venkateswaran, C. S. .. The Raman Spectra of iodic acid and the alkaline iodates as solids and solutions, 119.
The Raman Spectrum of phosphorus, 260.
The Raman Spectra of dioxane and tetralin, 279.
The fluorescence of ruby, sapphire and emerald, 459.
The Raman Spectra of some formates and the constitution of formic acid, 615.

Wheeler, T. S. .. .. On the theory of liquids—IV, 1.
See Nabar and Wheeler.
See Dodwadmath and Wheeler.
On the theory of liquids—V, 466.
See Rege and Wheeler.
See Ferreira and Wheeler.
See Acharya and Wheeler.

TITLE INDEX. (A).

Absorption bands, the new ultra-violet, of SO_2 (Asundi and Samuel), 30.
Aldehydes, condensation, with malonic acid in the presence of organic bases, IV (Vahidy and Pandya), 402.
Alkaloids from the seeds of *Cassia absus*, Linn. (Siddiqui and Ahmed), 421.
Arithmetical functions, certain, inequalities satisfied, II (Shah), 321.
Arithmetico-logical symmetric functions of n attributes (Vaidyanathaswamy), 54.
Bands, electronic, some aspects of gross intensities with special reference to C_2 (Swan) and N_2 (second positive) systems (Tawde), 67.
Band-spectra, a suggested new interpretation of the structure (Bhagavantam), 92.
Becke phenomenon (Pisharoty), 14.
Benzoin reaction, a study, IV (Rege and Wheeler), 483.
Benzoin reaction, a study, V (Ferreira and Wheeler), 605.
Calculus, an affine, of variations (Kosambi), 333.
Chalcones and chalcone-oxides, studies in the chemistry (Dodwadmath and Wheeler), 438.
$CHOH.CCl_3$ group, reduction (Meldrum and Datar), 580.
Conessine series, studies, I (Siddiqui), 426.
Cotton flowers, pigments, II (Neelakantam and others), 490.
Dams, uplift pressure (Ram and others), 22.
Density and compressibility of silicane and silicoethane (Ramaswamy and Rao), 213.
Depolarisation measurements, convergence error (Ananthakrishnan), 133.
Depolarisation of light scattering, redetermination, in gases and vapours (Ananthakrishnan), 153.
Detergency of soap solutions (Acharya and Wheeler), 637.
Determinants, positive, of binary quadratic forms whose class-number is 2 (Suryanarayana), 178.
Diamagnetism of chemical compounds, influence of the formation of hydrates (Varadachari), 161.
Diamagnetism of copper (Rao), 249.
Diamond lattice, dynamical theory, III (Nath), 143.
Dielectric coefficients of volatile compounds of fluorine and boron (Ramaswamy), 364.
Diffraction, laminar (Pisharoty), 14.
Diffraction of light by high frequency sound waves, I, II (Raman and Nath), 406, 413.
Dipole moment of tetralin (Rau and Rao), 232.
Dispersions of volatile compounds of fluorine and boron (Ramaswamy), 630.
Doppler effect in light scattering in liquids, II (Rao), 236.
Enantiomers, physical identity, I (Singh and Mahanti), 378.
Entropy of manganous ammonium sulphate at temperatures close to absolute zero, in relation to the magnetic anisotropy of the salt at room temperatures (Krishnan and Banerjee), 82.
Financial transaction, practical (Diwan and Narlikar), 182.
Fluorescence in cyclohexane (Padmanabhan), 209.
Fluorescence of ruby, sapphire and emerald (Venkateswaran), 459.
Furan derivatives, occurrence, in volatile oils, II (Rao and Subramaniam), 574.

Glutaconic acids, β-aryl, chemistry, II (Gogte), 185.
Hydrates, influence of the formation, on the diamagnetism of chemical compounds (Varadachari), 161.
Hydrogen deuteride, Raman Spectrum (Bhagavantam), 310.
Hyperfine structure in selenium, palladium and gold (Sibaiya), 313.
Iridium isotopes and their nuclear spins (Venkatesachar and Sibaiya), 203.
Isotope abundance in platinum (Venkatesachar and Sibaiya), 101.
Kinetics of heterogeneous organic reactions (Nabar and Wheeler), 265.
Kinetics of the reaction between α-brompropionate and silver ions (Kappanna), 512.
Light scattering in gold sols in relation to particle size and shape (Subbaramaiya), 358.
Light scattering in liquids, Doppler effect, II (Rao), 236.
Liquids, theory, IV, V. (Wheeler), 1, 466.
Magnetic anisotropy of naturally occurring substances, I (Nilakantan), 621.
Magnetic birefringence in solutions of organic substances, I (Chinchalkar), 525.
Magnetic double refraction and light scattering in fused nitrates (Thatte), 244.
Molecular clustering in binary liquid mixtures (variation with composition and temperature) (Krishnan), 221.
Mysterious number 137 (Born), 533.
Nuclear spins of iridium isotopes (Venkatesachar and Sibaiya), 203.
Oils, volatile, occurrence of furan derivatives, II (Rao and Subramaniam), 574.
Powers, sums (Chowla), 180.
p-Potency of G (p^n-1, r) (Gupta), 199.
Quadratic forms, binary, whose class-number is 2, positive determinants (Suryanarayana), 178.
Quadratic forms, irrational indefinite (Chowla), 176.
Raman scattering, carbon isotope, I (Bhagavantam), 86.
Raman scattering, rotational, in benzene (Bhagavantam), 342.
Raman Spectra of carbon and silicon tetrachlorides, some new features (Ananthakrishnan), 452.
Raman Spectra of dioxane and tetralin (Venkateswaran), 279.
Raman Spectra of iodic acid and the alkaline iodates as solids and solutions (Venkateswaran), 119.
Raman Spectra of isoprene, dipentene and ocimene (Srinivasan), 105.
Raman Spectra of some formates and the constitution of formic acid (Venkateswaran), 615.
Raman Spectrum of carbon disulphide (Rao), 46.
Raman Spectrum of deuterium, I, II (Bhagavantam), 303, 477.
Raman Spectrum of heavy water (Ananthakrishnan), 291.
Raman Spectrum of hydrogen deuteride (Bhagavantam), 310.
Raman Spectrum of phosphorus (Venkateswaran), 260.
Refractive indices of volatile compounds of fluorine and boron (Ramaswamy), 630.
Residue classes, a theorem on the addition (Chowla), 242.
Rotation and oscillation, hindered, of molecules in liquids and in crystals (Bhagavantam), 63.
Samples, two, a contribution to the problem (Sukhatme), 584.
Shells, iridescent, X-ray analysis of the structure, II (Swamy), 345.
Soap solutions, detergency (Acharya and Wheeler), 637.
Spectra, flame, of some aromatic compounds (Vaidya), 352.
Spectrum, analysis, of trebly ionised zinc: Zn IV (Subbaraya), 113.
Ultrasonic velocity, determination, in 52 organic liquids (Parthasarathy), 497.

Waring's problem, a remarkable property of the "singular series", and its relation to hypothesis K of Hardy and Littlewood (Chowla), 397.
Waring's problem, Vinogradow's solution: Hypothesis K of Hardy and Littlewood (Chowla), 562.
Waring's type, some problems, III (Chowla), 10.
Weirs, uplift pressure (Vaidhianathan and others), 646.